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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,416	04/21/2004	Nobuhiro Nakamura	252144US-2 CONT	4529
22850	7590	02/03/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ZIMMERMAN, GLENN	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/828,416

Applicant(s)

NAKAMURA, NOBUHIRO

Examiner

Glenn Zimmerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0404.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

The examiner could not find the IDS 1449 form of Dec 15, 2004. Please resend. The examiner will send a message to scanning to see if they forgot to scan all of the IDS.

Drawings

Figure 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the supplementary wire comprises at least 3 layers as in claim 11 and wherein the number of supplementary wires is at least 30 per one display element as in claim 9 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Election/Restrictions

Applicant's election with traverse of Group 1 claims 1-12 in Paper No. 0105 is acknowledged. The traversal is on the ground(s) that the method and product claims would appear to be part of an overlapping search. This is not found persuasive, because any one of the following conditions, which are separate statutory classifications of invention, separate status in the art when they are classifiable together and different fields of search, are indicia of an undue burden. In this instance the condition of separate statutory classifications has been met. See MPEP 803(B) and 808.02.

The requirement is still deemed proper and is therefore made final.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4-6, 10 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Hosokawa U.S. Patent 6,538,374.

Regarding claim 1, Hosokawa disclose an organic electroluminescence display **(abstract) element (Fig. 9 ref. 62 or 68) comprising a first conductive layer (upper**

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electrode ref. 20), a second conductive layer (**lower electrode ref. 22**) opposed to the first conductive layer, a driving circuit (**active layer ref. 44**) connecting terminal (**col. 22 lines 49-50**) connected electrically to the first conductive layer via a supplementary wire (**auxiliary electrode ref. 18**) and an organic electroluminescence layer (**organic luminous medium ref. 24**) disposed between the first conductive layer and the second conductive layer wherein the supplementary wire has at least one surface layer as a layer containing Mo (**col. 14 line 37**) or a Mo alloy.

Regarding claim 2, Hosokawa disclose the organic electroluminescence display element according to claim 1, wherein the first conductive layer is connected (**col. 4 lines 62-63**) to the layer containing Mo or a Mo alloy.

Regarding claim 4, Hosokawa disclose the organic electroluminescence display element according to claim 1, wherein the supplementary wire has a layer made of al, an Al alloy, Ag or an Ag alloy (**col. 11 lines 66 and 67; col. 11 line 62; col. 14 lines 32-37**). The examiner notes that in the information on column 11 that Mo is not chosen for the upper electrode but rather Cr and other. The examiner notes that Cr is in the list of various metals used for the auxiliary electrode 18 which is ref. 17 and 19. Therefore choose Mo from the list in column 14 and replace the Cr of column 11 with Mo.

Regarding claim 5, Hosokawa disclose the organic electroluminescence display element according to claim 1, wherein the first conductive layer is connected to an etched surface of the layer containing Mo or a Mo alloy. The examiner notes that in the information on column 11 that Mo is not chosen for the upper electrode but rather Cr and other. The examiner notes that Cr is in the list of various metals used for the

auxiliary electrode 18 which is ref. 17 and 19. Therefore choose Mo from the list in column 14 and replace the Cr of column 11 with Mo. In col. 12 line 1, the Cr is etched. Choosing Mo as the upper auxiliary electrode Mo is etched to make the various shapes of Figures 15-16.

Regarding claim 6, Hosokawa disclose the organic electroluminescence display element according to claim 1, wherein the portion connected to the layer containing Mo or a Mo alloy, of the first conductive layer is defined by an insulation film (**electrically insulating film ref. 25**).

Regarding claim 10, Hosokawa disclose the organic electroluminescence display element according to claim 1, wherein the portion connected (**col. 4 lines 62-63**) to a supplementary wire, of the first conductive layer contains Al or an Al alloy (**col. 14 lines 32-46; col. 13 line 40 also the upper electrode is made of Al; col. 13 lines 42-46**). Column 14 discloses that the low resistance material may be preferably an alloy of Al and a transition metal. Column 14 disclose the transition metals than can be used with the auxiliary electrode includes Mo. So there is an AlMo alloy supplementary wire connected to the first electrode.

Regarding claim 12, Hosokawa disclose an organic electroluminescence display (**abstract**) device comprising the organic electroluminescence display element described in claim 1 and a driving circuit (**abstract; tft**) for driving the organic electroluminescence display element.

Claim 11 is rejected under 35 U.S.C. 102(e) as being anticipated by Kobayashi et al. U.S. Patent 2002/0158835 A1.

Regarding claim 11, Kobayashi et al. U.S. Patent Application Publication 2002/0158835 A1 disclose an organic electroluminescence display element (**Fig. 3;abstract**) comprising a first conductive layer (**ref. 122, 120a and 120b**), a second conductive layer (**ref. 117**) opposed to the first conductive layer, a driving circuit connecting terminal connected (**ref. 119**) electrically to the first conductive layer via a supplementary wire (**ref. 118**) and an organic electroluminescence layer (**ref. 121**) disposed between the first conductive layer and the second conductive layer, wherein the supplementary wire comprises at least 3 layers including a layer containing Mo or a Mo alloy as a surface layer and a layer containing Al or an Al alloy formed below the surface layer.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Shintaro Japanese Patent Application Publication 09-306665.

Regarding claim 1, Shintaro disclose an organic electroluminescence display (**drawing 1**) element (**drawing 1 no ref. #**) comprising a first conductive layer (**ref. 2**), a second conductive layer (**ref. 4**) opposed to the first conductive layer, a driving circuit (**ref. 5**) connecting terminal (**ref. 5**) connected electrically to the first conductive layer via a supplementary wire (**ref. 6 with conducting layer**) and an organic electroluminescence layer (**ref. 3**) disposed between the first conductive layer and the second conductive layer wherein the supplementary wire has at least one surface layer as a layer containing Mo (**claim 2**) or a Mo alloy. See claim 1 and claim 2

Regarding claim 3, Shitaro disclose an organic electroluminescence display element according to claim 1, wherein the second conductive layer is made of ITO (ITO ref. 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa U.S. Patent 6,538,374 in view of Yamazaki et al. U.S. Patent 6,420,834.

Regarding claim 3, Hosokawa teaches all the limitations of claim 3, but fails to teach wherein the second conductive layer is made of ITO. Yamazaki et al. in the analogous art teaches wherein the second conductive layer is made of ITO (**ref. 104; col. 3 lines 64-65; col. 17 line 34**). Additionally, Yamazaki et al. teaches incorporation of such an ITO second conductive layer to improve transparency of the pixel electrode (**col. 3 lines 61 and 62**) for emission toward the substrate and provide for a working conducting material for the pixel electrode (**col. 3 lines 61 and 62; col. 17 line 34**).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use ITO in the secondary electrode of lower electrode of Hosokawa, since such a modification would transparency of the pixel

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electrode for emission toward the substrate and provide for a working conducting material for the pixel electrode as taught by Yamazaki et al.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa U.S. Patent 6,538,374 in view of Codama et al. U.S. Patent 6,114,805.

Regarding claim 7, Hosokawa teaches all of the limitations of claim 7, but fails to teach wherein the Mo alloy contains Nb. Codama et al. in the analogous art teaches wherein the Mo alloy contains Nb (**col. 8 lines 39-47; col. 8 line 30**). Additionally, Codama et al. teaches incorporation of such a Mo alloy contains Nb to improve the thin film resistance of interconnection electrode (**col. 8 lines 30-50**) and provide a working interconnection electrode. Note choose an Mo alloy with Nb where is 10% at%

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use wherein the Mo alloy contains Nb in the auxiliary electrode of Hosokawa, since such a modification would improve the thin film resistance of interconnection electrode and provide a working interconnection electrode as taught by Codama et al.

Regarding claim 8, Codama discloses wherein the content of Nb in the Mo alloy is 5 to 20 atomic %. This claim is rejected for the same reasons found in claim 7.

Allowable Subject Matter

Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Regarding claim 9, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an organic display element including the combination of all the limitations as set forth in claim 9, and specifically wherein the number of supplementary wires is at least 30 for one display element could not be found elsewhere in prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (571) 272-2466. The examiner can normally be reached on M-W 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Glenn Zimmerman



Vip Patel
Primary Examiner
AU 2879